

## Education

- 2023 – 2028 📖 **Ph.D. in CS, UT Austin.** Advisor: Aditya Akella and Daehyeok Kim. Research interest: Computer networks, systems for machine learning.
- 2019 – 2023 📖 **(Summa Cum Laude) B.S. in CS, Turing Class, Peking University.** GPA: 3.869/4 (1%) Advisor: Tong Yang. Research interest: Databases, theoretical computer science.

## Publications (by Date)

- 1 H. Li, L. Wang, Q. Chen, *et al.*, “Chainedfilter: Combining membership filters by chain rule,” *Proceedings of the 2024 International Conference on Management of Data*, 2023.
- 2 X. Li, Z. Fan, H. Li, *et al.*, “Steadysketch: Finding steady flows in data streams,” in *2023 IEEE/ACM 31st International Symposium on Quality of Service (IWQoS)*, IEEE, 2023, pp. 01–09.
- 3 R. Qiu, Y. Ming, Y. Hong, H. Li, and T. Yang, “Wind-bell index: Towards ultra-fast edge query for graph databases,” in *2023 IEEE 39th International Conference on Data Engineering (ICDE)*, IEEE, 2023, pp. 2090–2098.
- 4 Z. Wang, Z. Zhong, J. Guo, *et al.*, “Rencoder: A space-time efficient range filter with local encoder,” in *2023 IEEE 39th International Conference on Data Engineering (ICDE)*, IEEE, 2023, pp. 2036–2049.
- 5 H. Li, Q. Chen, Y. Zhang, T. Yang, and B. Cui, “Stingy sketch: A sketch framework for accurate and fast frequency estimation,” *Proceedings of the VLDB Endowment*, vol. 15, no. 7, pp. 1426–1438, 2022.

## Research Experience

- 2023 📖 Graduate Research Assistant @ **UT Austin**, advised by Prof. **Daehyeok Kim** and **Aditya Akella**. I worked on distributed systems for machine learning, to reduce the communication overhead among different worker nodes.
- 📖 Research Assistant @ **UT Austin**, advised by Prof. **Aditya Akella** and **Tong Yang**. I worked on theoretical computer science and develop an integral and complete theory for static membership problems, which provides a solid ground truth for future work.
- 2022 📖 Research Assistant @ **Harvard University**, advised by Prof. **Minlan Yu**. I worked on a switch architecture project to introduce 2d-mesh structure into programmable switches.
- 2021 – 2022 📖 Research Assistant @ **Peking University**, advised by Prof. **Tong Yang**. I worked on probabilistic structures for data streams. To be more specific, I focus on fundamental algorithms including (1) frequency estimation, where I propose a fast and accurate sketch framework which outperforms SOTAs in both speed and accuracy, (2) relational query index, (3) range query index and (4) quantile estimation algorithms.

## Miscellaneous Experience

- 2020 – 2023 📖 Turing Class Monitor.
- 2022 📖 Chair of Turing Student Research Forum.
- 2021 📖 Teaching Assistant for Introduction to Computer Systems. I taught CSAPP two hours per week to help undergraduates consolidate knowledge.
- 📖 Freshmen Counselor.

## Miscellaneous Experience (continued)

---

- Leader of the College Debating Team.
- Minister of the Zhongying Public Welfare Association.

## Miscellaneous Experience

---

### Undergraduate

- |   |  |
|---|--|
| Scholarships  | Zhongying Moral Education Scholarship (16,000 CNY), 2020-2023.             |
|   | SenseTime Scholarship (30 in China, 20,000 CNY), 2022.                     |
|   | Arawana Scholarship (12,000 CNY), 2022.                                    |
|   | National Scholarship (1%, 16,000 CNY), 2021.                               |
|   | National Scholarship (1%, 16,000 CNY), 2020.                               |
| Honors  | Outstanding Graduate, Beijing (5%), 2023.                                  |
|   | Outstanding Graduate, Peking University, 2023.                             |
|   | Weiming Scholar, 2023.   |
|   | Merit Student (1/26), 2023.  |
|   | Outstanding Undergraduate Thesis, Peking University (3%), 2023.            |
| Awards  | Merit Student Pacesetter (1/26), 2021.                                     |
|   | Merit Student (1/30), 2020.  |
|   | Outstanding Undergraduate Research Project (4,000 CNY), 2023.              |
|   | Academic Innovation Award (1%), 2022.                                      |
|   | First Prize of Challenge Cup Research Competition (1/11, 3,000 CNY), 2022. |
| First Prize of Huawei Cup Innovation Competition (1/16, 4,000 CNY), 2022. |  |

### Personal

---

- |              |  |
|--------------|--|
| Hobby        | I like psychology and photograph. For the future five years, I want to learn foreign languages like Spanish and German, as well as pickup an instrument. |
| Reach Out    | (Preferred) email: lhy@utexas.edu (For Chinese) wechat: lhy382308889   |
|              | Phone: (+1) 737-343-3908      LinkedIn: haoyu-li-bb554928b   |
| Social Media | Homepage: lihy0529.github.io      Github: github.com/lihy0529  |
|              | Twitter: Haoyu_Harry_Li      Youtube: https://www.youtube.com/@HaoyuLi-ox6yg   |